



# Introduction to Phytoremediation

## Fact Sheet and Order Information

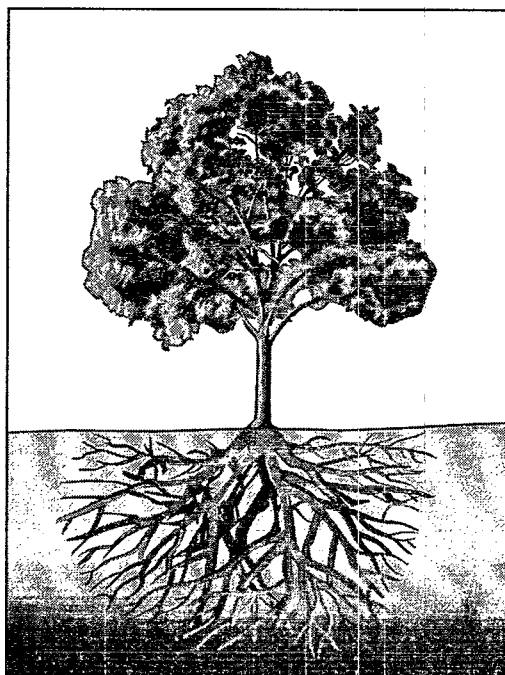
### Introduction

Phytoremediation is a set of emerging technologies that use various plants to degrade, extract, contain, or immobilize contaminants from soil and water. This technology has been receiving attention lately as an innovative, cost-effective alternative to the more established treatment methods used at hazardous waste sites.

**Introduction to Phytoremediation (EPA 600-R-99-107)** is intended to provide a tool for site regulators, owners, neighbors, and managers to evaluate the applicability of phytoremediation to a site. It defines terms and provides a framework to understand phytoremediation applications. The document also compiles research and remediation work that has been done to date.

### Objectives

- \* Provide an educational tool for site regulators, owners, neighbors, and managers to evaluate the applicability of phytoremediation to a site.
- \* Develop a format that is accessible to EPA, state regulators, and others who need to evaluate alternate remedial technologies; site owners, project managers, consultants, contractors, and students who are interested in basic information.
- \* Evaluate the various phytoremediation processes.
- \* Present characteristics of phytoremediation system characteristics that site managers and others might find useful in assessing the potential applicability of phytoremediation to a specific site.
- \* Present case studies illustrating field applications of phytoremediation.
- \* Provide a detailed bibliography of additional resources.



- \* Provide direction for research, development, and regulation, and identify areas of needed research.

### Approach

The report was developed by conducting a comprehensive literature search, contacting contractors and researchers to obtain information on applications and cost, reviewing and evaluating existing research and field applications, and compiling research and remedial work performed to date.

### Contents

The document presents information on the various

phytoremediation processes and associated information:

- \* **Phytoremediation overview**  
Applications, limits, cost information, and regulatory concerns.
- \* **Literature review and evaluation of processes**  
Definitions, mechanisms, site characteristics, applicable media, contaminants amenable to each phytoremediation process, and associated concentrations.
- \* **Considerations for the use of phytoremediation**  
Information that will help a site manager identify whether phytoremediation may be applicable for a site and to select a particular phytoremediation technology.
- \* **Remedial objectives and monitoring needs**  
Discussion on performance evaluation and monitoring techniques to measure progress toward the remedial objectives.
- \* **Case studies**  
Site descriptions, design considerations, monitoring recommendations, status, and cost.



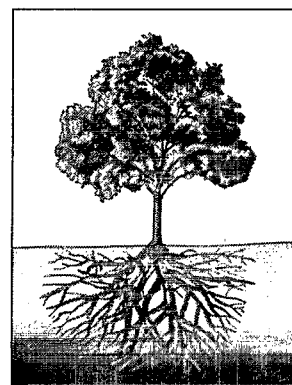
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